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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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10/590,893

08/28/2006

Paul Gothard Knutson

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04/08/2008

Joseph J. Laks

Thomson Licensing LLC

2 Independence Way, Patent Operations

PO Box 5312

PRINCETON, NJ 08543

EXAMINER

JAMAL, ALEXANDER

ART UNIT

PAPER NUMBER

2614

MAIL DATE

DELIVERY MODE

04/08/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/590,893 | Applicant(s) KNUTSON, PAUL | |
| | Examiner ALEXANDER JAMAL | Art Unit 2614 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. **Claims 1-4,9-15,20-22** rejected under 35 U.S.C. 102(b) as being anticipated by Nyhart et al. (5553137).

As per **claims 1,12**, Nyhart discloses an acoustic echo canceller (Col 1 lines 21-40) that trains on ‘non-training’ audio.

As per **claims 2,13,21**, it is rejected as per claim 1.

As per **claims 3,10,11,14,22**, it may be audio.

As per **claims 4,15**, examiner reads any device that processes audio with acoustic echoes as a computer, portable computer, and a phone.

As per **claims 9,20**, the examiner contends that any initialization stage for a communications device would inherently comprise an indication to the training portion as to when to start (a number of training calls being reached) for the purpose of telling the training when to start.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 23-26,5,16,7,8,18,19**, rejected under 35 U.S.C. 103(a) as being unpatentable over Nyhart (5553137) as applied to claims 1,12.

As per **claim 23**, it is rejected as per the claim 1 rejection, however Nyhart doesn't disclose the specifics of the terminal where the echo canceller is implemented.

It would have been obvious to one of ordinary skill in the art at the time of this application that an echo canceller could be implemented on a phone (which is also a conferencing device) or computer with a known interface (USB,1394) that produces the external audio signal for training for the purpose of removing echoes from those devices.

As per **claims 24-26**, they are rejected as per the claim 1 rejection.

As per **claims 5,16**, Nyhart discloses the audio training signal for the canceller, but does not specify matching the sampling rate of the training to the application that would need the echo cancelling (telephone or conference).

The examiner contends it would have been obvious to utilize training signals that matched the spectral (including sampling rate) characteristics of the data for which the echo canceller was to be used with so as to train the echo canceller properly.

As per **claim 7,8,18,19**, examiner contends it would have been obvious to balance and manage the processor resources in a given system as necessary to perform the disclosed functions of communicating and echo cancelling.

4. **Claims 6,17** rejected under 35 U.S.C. 103(a) as being unpatentable over Nyhart (5553137) as applied to claims 1,12, and further in view of applicant's admitted prior art (spec).

As per **claims 6,17**, Nyhart's system comprises a speaker, and mic (fig. 1), but does not give specifics of the echo canceller.

Applicant's admitted prior art discloses well known adaptive filters used to perform the echo cancelling. The digital system inherently comprises means to delay all signals paths so as to synchronize the signals (to give 'real time' bidirectional communication.) (spec pages 1 and 2). It would have been obvious to one of ordinary skill in the art at the time of this application to implement well known echo canceller features like a filter and delay means for the purpose of implemented the disclosed canceller.

Art Unit: 2614

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Jamal whose telephone number is 571-272-7498. The examiner can normally be reached on M-F 9AM-6PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis A Kuntz can be reached on 571-272-7499. The fax phone numbers for the organization where this application or proceeding is assigned are **571-273-8300** for regular communications and **571-273-8300** for After Final communications.

/Alexander Jamal/

Examiner Alexander Jamal

April 8, 2008